

CLAIMS

1. A coating apparatus including a ventilated rotating drum in which granules to be processed are accommodated and
5 which is driven to rotate around its axial line, characterized in that

said rotating drum includes one end and the other end along the direction of the axial line and a peripheral wall that connects said one end and said other end, said other end
10 being located on the side of a rotary drive mechanism for driving said rotating drum;

said one end and said other end are respectively provided with an air vent, one of which constitutes an air inlet for supplying process gas from outside into said rotating drum,
15 and the other one of which constitutes an air outlet for exhausting the process gas from inside said rotating drum to the outside; and

the process gas supplied into said rotating drum through said air inlet is passed through a layer of the granules
20 inside said rotating drum and exhausted from said air outlet.

2. The coating apparatus according to claim 1, wherein the axial line of said rotating drum forms a preset angle θ ranging from 0° to 90° with respect to the horizontal line.

3. The coating apparatus according to claim 2, wherein
25 the axial line of said rotating drum is inclined at the preset

angle θ with respect to the horizontal line.

4. The coating apparatus according to claim 1, wherein the axial line of said rotating drum is oscillatory within a preset angle range.

5 5. The coating apparatus according to claim 1, wherein the air vent at the other end of said rotating drum is formed by a porous part.

6. The coating apparatus according to claim 1, wherein the air vent at one end of said rotating drum is provided in
10 an opening whose center coincides with the axial line of said rotating drum.

7. The coating apparatus according to claim 1, wherein a ventilation mechanism is provided at the other end of said rotating drum for communicating the air vent at said other end
15 to an air duct at a preset location.

8. The coating apparatus according to claim 7, wherein said ventilation mechanism includes a first disc plate constituting the other end of said rotating drum and having an air vent consisting of porous parts arranged in a ring shape
20 around the axial line of said rotating drum, and a second disc plate arranged opposite said first disc plate and having a connection hole for communicating the air vent of said first disc plate to said air duct at a preset location.

9. The coating apparatus according to claim 8, wherein
25 said second disc plate is constructed slidable in the axial

direction.

10. The coating apparatus according to claim 7, wherein
the air vent at the other end of said rotating drum
communicates to a first air duct at a first preset location
5 where the air vent overlaps the layer of granules inside said
rotating drum, and to a second air duct at a second preset
location where the air vent overlaps an upper space above said
layer of granules inside said rotating drum, said first preset
location and second preset location being selectable when
10 performing ventilation.

11. The coating apparatus according to claim 10, wherein
when said second preset location is selected, the process gas
flows through the upper space above said layer of granules
between the air vent at said other end at said second preset
15 location and the air vent at said one end.

12. The coating apparatus according to claim 8 or 9,
wherein said first disc plate is provided with a product
discharge part that can be opened and closed for discharging
granule products inside said rotating drum to the outside.

20 13. The coating apparatus according to claim 12, wherein
said product discharge part includes an open window formed in
said first disc plate and an open/close lid provided for said
open window.

14. The coating apparatus according to claim 13, wherein
25 opening/closing operation of said open/close lid is associated

with a movement of a movable member of an actuator and a sliding movement of said second disc plate.

15. The coating apparatus according to claim 1, wherein the other end of said rotating drum is connected to a hollow drive shaft of the rotary drive mechanism for driving said rotating drum, and granule products inside said rotating drum are discharged to the outside through inside said hollow drive shaft.

16. The coating apparatus according to claim 15, wherein said hollow drive shaft is provided with an open/close lid for opening and closing an opening at one shaft end facing the inside of said rotating drum.

17. The coating apparatus according to claim 1, wherein the peripheral wall of said rotating drum is shaped such that its diameter increases gradually from said one end and from said other end toward the center in the axial direction, and a cross-sectional plane of said peripheral wall containing a large diameter part is inclined with respect to the axial line at a preset angle.

18. The coating apparatus according to claim 1, wherein the peripheral wall of said rotating drum includes an inwardly protruding baffle, and an inner space of said baffle is open on the outside of said peripheral wall.

19. The coating apparatus according to claim 18, wherein said baffle is provided in said peripheral wall continuously

inward.

20. The coating apparatus according to claim 19, wherein said baffle is formed by bending a preset area of said peripheral wall inward.

5 21. The coating apparatus according to claim 1, wherein at least one of cooling means and heating means is disposed on the outside of the peripheral wall of said rotating drum.

22. The coating apparatus according to claim 1, wherein the peripheral wall of said rotating drum is formed in a
10 polygonal tube shape.

23. The coating apparatus according to claim 1, wherein one end of said rotating drum is covered by a part of casing to which a third air duct is attached, with sealing means for providing a seal between said one end and said part of casing.

15 24. The coating apparatus according to claim 23, wherein said sealing means is a labyrinth seal.